1.03 Formulate and revise scientific explanations and models using logic and evidence to:
- Explain observations.
- Make inferences and predictions.
- Explain the relationship between evidence and explanation.

1.04 Apply safety procedures in the laboratory and in field studies:
- Recognize and avoid potential hazards.
- Safely manipulate materials and equipment needed for scientific investigations.

1.05 Analyze reports of scientific investigations from an informed scientifically literate viewpoint including considerations of:
- Appropriate sample.
- Adequacy of experimental controls.
- Replication of findings.
- Alternative interpretations of the data.

COMPETENCY GOAL 2: The learner will construct an understanding of forces and motion.

Objectives

2.01 Measure and mathematically/graphically analyze motion:
- Frame of reference (all motion is relative - there is no motionless frame).
- Uniform motion.
- Acceleration.

2.02 Investigate and analyze forces as interactions that can change motion:
- In the absence of a force, an object in motion will remain in motion or an object at rest will remain at rest until acted on by an unbalanced force.
- Change in motion of an object (acceleration) is directly proportional to the unbalanced outside force and inversely proportional to the mass.
- Whenever one object exerts a force on another, an equal and opposite force is exerted by the second on the first.

COMPETENCY GOAL 3: The learner will analyze energy and its conservation.

Objectives

3.01 Investigate and analyze storage of energy:
- Kinetic energy.
- Potential energies: gravitational, chemical, electrical, elastic, nuclear.
- Thermal energy.

3.02 Investigate and analyze transfer of energy by work:
- Force.
- Distance.